

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/343433579>

# Determinants of Profitability in Commercial Banks: a Field Study in a Sample of the Iraqi Private Commercial Banks

Article in *Creativity and Innovation Management* · January 2019

CITATIONS

25

READS

356

1 author:



**Amjad S. Al-Delawi**

Cihan University-Erbil

28 PUBLICATIONS 144 CITATIONS

SEE PROFILE

# Determinants of Profitability in Commercial Banks: a Field Study in a Sample of the Iraqi Private Commercial Banks

\*Amjad Saber Said Al-Delawi<sup>a</sup>, <sup>a</sup>Cihan University –Erbil-Iraq,

\*Corresponding Author E-mail: [presidency@cihanuniversity.edu.iq](mailto:presidency@cihanuniversity.edu.iq)

The present study examines the analysis of bank profitability determinants in the private banking sector of Iraq which represents a rate of return on assets (ROA) that are most widely used in this area. The period between 2010 and 2014 (five years) has been chosen for the study due to this being when the global economic crisis happened which caused the bankruptcy of quite a few public and private banks in the world, in addition to causing substantial changes in the global commercial banking sector like re-owning or merging banks. All these reasons have influenced the commercial banking sector. The focus of the analysis is on three factors: degree of financial leverage, the rate of income tax, and the capital adequacy for ten operating commercial banks in the private sector of Iraq. The results of the three factors, as independent variables with the rate of return on assets as the dependent variable, have been studied. Also, the effects of the variables have been analyzed to identify the impact of trends and changes of many of the positive and negative fluctuations that occur in the profitability of banks and the role of these variables to enable the government to support the sector.

**Key words:** *Determinants of profitability return on assets, leverage, tax rate, capital adequacy.*

## Introduction

The banking system in Iraq has developed considerably. The banking sector is considered one of the main pillars of any economy as the bank represents a model of the deposit for any financial institution (Nacane1999). The banking sector has recently faced a great recession all over the world because of the regression in the investment sector where many changes in the business environment took place which affected entire economics (Ahmed and Rehman2008). Banks are classified depending on many factors some are: profitability, expansion in operations, and margin of gross profit (Singh 1974). The primary function of banks is to collect surplus funds and offer them for investment (Oldfield 1976) to achieve profits through lending money to investors in exchange for bearing the costs (Acharya2003). In other words, the high organizational level banks will achieve high profits. As well as the competition expenditures between local or international banks, the technological changes lead to great changes in the monetary and fiscal environment of banking (Spathis m Kosmidouaand Doumposn2002). As such, determining the effect of the profitability of the bank is the main objective in the business world (Baggs and Brander 2006; Islam, Muhammad Adnan Hye & Shahbaz 2012).

Accordingly, this study has been conducted on a sample of Iraqi private banks to analyze the impact of profitability (return on assets) through three determinants: financial leverage, tax rate, and capital adequacy using different methods.

## Previous Studies

### *A. Arabic Studies:*

1. **Muheisen, Tareq study 2006:** This study aimed at investigating the impact of the efficiency of the commercial banks in Jordan on their competitive ability for the period 1979 to 2004. The study concluded that these commercial banks are of low level due to their low rate of capital, management efficiency, asset quality, profitability, and high monetary liquidity rates compared with international standards and the standards approved by the Central Bank of Jordan. It also concluded that the efficiency positively affects the competitiveness of the commercial banks which is entirely due to the small capital amounts of these banks which should be increased.

2. **Al-Tayeb Saoud Musa and Shahatit Mohammed Issa's study 2011** aims to measure the effects caused by the application of the commercial banks in Jordan to capital adequacy standards on profitability. As the commercial banks in Jordan operate in a risky environment, it is necessary to promote the adequacy and the financial positions of these banks through the application of financial and banking safety standards. The capital adequacy global standard represents a minimum safety level of financial security requirements. The study attempts to

answer the following question: does raising the capital of the commercial banks in Jordan have an impact on profitability? To answer this question, sectional time series analysis of CT in 2007 was used. Accordingly, a number - to twelve indicator of profitability is used for all fifteen commercial banks for the period 2000 - Panel data Views 1440. The data of 2008 are not used in the present study due to the global financial crisis. It has been concluded that the application of capital adequacy standard does not have a significant statistical effect on the profitability of commercial banks in Jordan. Also, it has a negative and not a positive impact on raising the capital except for three profit rates.

**3-Younis Mona's 2015 study:** This study aimed to determine the regular capital and the risks impact (credit, market, operational) on the capital adequacy in the banks. The independent variables were taken in a form of amounts as displayed by banks to calculate the adequacy ratio, data for ten Islamist and traditional banks listed on the Saudi market were collected, and the capital adequacy ratio was taken according to Basel 11<sup>th</sup> resolutions, to make a comparison among them during the study period 2008-2013. The study concluded that there is a statistically significant positive correlation between regular capital and capital adequacy ratio in the majority of banks. In addition, there is a significant inverse relationship between credit risks and capital adequacy ratio in most banks. Furthermore, there is a statistically significant inverse relationship between market risk and operating on the one hand and the capital adequacy ratio on the other in most banks. The study also came up with the conclusion that the regular capital was more explanatory of the risks of changes that take place in capital adequacy ratio. Finally, there are no clear differences between Islamic and conventional banks concerning the relationship between capital adequacy ratio and their determinants.

**4. Mohammad, Suad Abdulfattah and Mubarak Mithal Marhoon, Baban Raad Fadel 2013 study:** This research aimed at making sure that the private banks, (Economy Bank for Investing and Financing) applied the standards of the capital adequacy issued by the Central Bank of Iraq where the ratio reached 16.3% compared to the determinant amount of 12%. The researchers recommended that the private banks should consider finding a specific section for risk management, and increasing the share capital to face potential banking risks and to apply the capital adequacy standard.

**5. Siam, Ahmed Zakaria's 2009 study:** The objectives of the research are to apply the requirements of banking professional governance, to regulate the interrelated relations between the executive management, the board of directors, shareholders, and stakeholders the provisions of the control on the administration and not to harm the interests of the dealers. The researcher has reached a set of conclusions and recommendations among which were that the banking governance has succeeded in attracting attention, boosting commercial Jordanian banks efficiency approved by their development, growth, and increase the size of

the facilities provided, and constricting the control over financial operations in accordance with the legislative and regulative frameworks that reflect the bright image of bank governance in the context of globalization.

### ***B. Foreign Studies:***

1-Guru, Staunton, and Balashanmugam's 2002 study: The purpose of the study which was conducted in Malaysia was to examine the profitability of commercial banks determinants. A sample of 17 banks was used for the period from 1986 to 1995. Bank profitability determinants were divided into two determinants: internal (liquidity, capital adequacy, administration expenditures) and external (ownership, bank size, economic conditions). The study came across the fact that the efficiency of administration expenses plays a significant role in bank profitability, and the high rate of interest significantly affects the reduction of the profits of the bank. Moreover, inflation had a positive impact on the performance of the bank.

2- Chantapong's study 2005: This study aimed to evaluate the performance of the local and foreign banks in Thailand for the period from 1995 to 2000. It was found that all banks have reduced their credit facilities during the period of the crisis and returned to improve them later. Also, it has been found that the foreign banks have achieved profits compared to local banks. What's more; the restructuring has achieved positive results by reducing the gap between domestic and foreign banks until it ended after the financial crisis years.

3- Pasiouras & Kosmidou's study: This study tested the performance of local and foreign banks in 15 countries of the European Union during the period 1995 to 2001 and found that the profitability of banks was not only affected by the characteristics of the bank, but also by the structure of the capital market and macroeconomic conditions. The results of the study indicated that all variables are significantly related to the Bank's profitability although their effects are not the same for local and foreign banks.

4- FU & Heffernan's 2010 study. This study aimed to evaluate the performance of the Chinese banking sector for the period 1999 up to 2006. It was found that the measure of added economic value and the marginal net interest are better than traditional measures; return on assets and return on ownership right. Also, some microeconomic variables and financial ratios significantly affect the performance expectations and whether the bank is enlisted in a market that has no significant effect on the performance.

5-Ben Naceur and Goaid's 2010 study: This study aimed to test the effect of the bank attributes on the financial structure, the economic conditions, the net interest, and profitability in the Tunisian banking sector for the period from 1980 until 2000. It has concluded that the

banks of the large capitals and public expenses have a tendency towards net profit and high level of profit. It was also found that the bank size is connected by inverse relationship with bank profitability, and that the capital market has a positive impact on the profitability of a bank, and the private banks profits are better than the ones of the public banks.

## **Research Methodology**

The problem of the study:

The problem of the study is about finding the impact of leverage variables, the rate of the tax, and the capital adequacy on the profits of private banks operating in Iraq.

Hypotheses:

In the lights of the previous studies and the problem of the study, the following hypotheses can be made:

1- **The first hypothesis** H1: financial leverage has significant effect on the rate of return on assets in the Iraqi private commercial banks, versus alternative hypothesis H0; the financial leverage has no significant effect on the rate of return on assets in the Iraqi private commercial banks.

2- **The second hypothesis:** H1 tax rate on income has a significant effect on the rate of return on assets in the Iraqi private commercial banks, versus alternative hypothesis H0; tax rate on income has no significant effect on the rate of return on assets in the Iraqi private commercial banks.

3- **The third hypothesis:** H1 capital adequacy of income has significant effect on the rate of return on assets in the Iraqi private commercial banks, versus alternative hypothesis H0: capital adequacy has no significant effect on the rate of return on assets in the Iraqi private commercial banks.

## ***Value of the study***

The importance of the study lies in the fact that private banks play a central role in renewable economic growth and social development. Focus should be on bank profitability and what the determinants that affect those profits are. Hence, the present study is an attempt to identify the concepts of the above variables and the role they play both together and separately in restricting profitability of the private banks

## ***Aims of the study***

The present study aims at determining:

- 1- The impact of the banks' external funding to carry out their banking transactions,
- 2-What the impact of the tax applications on the profitability of the bank are,
- 3-What the consequences of the application of the standard capital adequacy under the Basel Convention and the instructions of the Central Bank of Iraq are.

### ***Limits of the study***

The study is limited to examining the published financial reports of a random sample consisting of 10 private Iraqi banks of practice different activities (conventional and Islamic) for the period 2010 to 2014.

The variables of the study must be clarified, namely:

### ***Return on assets ROA***

It is a financial ratio that shows the ability of the assets of the accounting unit in achieving profits (Tarawneh M, 2006; Isik, Sunay & Cengiz 2018). Banks are classified on the basis of several factors such as profitability, expansion in business, and total profit margin. This average is similar to the rate of return stockholders because both measure the return on investment, and the rate of return on assets as the most volatile ((Baucus Golec& Cooper 1993) especially if they are compared with economic units of different activities.

### ***Leverage: Financial leverage***

Leverage means the scope of reliance of the bank on borrowing from the financial and banking institutions to meet its needs. In other words, it is the degree of reliance of the bank in financing assets on fixed-income financing sources, whether they are loans or stocks. Leverage ratio in the banks is:  $\frac{\text{The total fixed deposits and debts}}{\text{capital} + \text{capital reserved}}$   
The calculation of the leverage shows the financial solvency of the bank, and the high degree of leverage lowers the credit score (MItoo & Zang 2010), and shows in some cases negative effect (Dang, 2010). The main purpose of financial leverage is to maximize the profitability of the accounting unit, and the increase of the leverage affects positively on investors.

### ***Tax Rate***

Tax rate represents the burden on the accounting unit (expressed by a percentage). There are several ways to count the income tax physical individuals and significant ones. Tax policies consider the costs and benefits that increase the profit charge (Davies, Egger & Egger 2010). In Iraq, the applied tax rate to private joint stock companies, including banks, reaches 15% according to the income tax act amended No. 113 of 1982.

### ***The Capital Adequacy***

Retaining adequate capital is considered one of the most important requirements for banks and financial institutions and is a balance between the capital and risks in order to ensure the stability of the bank and the financial system. This percentage is considered one of the most important current issues in which the efficiency and stability of the bank are evaluated. The Agreement of Basel recommended that a bank should retain a minimum level of capital adequacy ratio by reducing the lack of solvency of the bank (the bankruptcy of the bank). This means the capital adequacy is an indicator of a bank's exposure to multiple risks which are classified into several types: credit risk, market risk, the risk of interest rate risk, exchange rate risk, etc. As a result, the legal bodies use capital adequacy as an indicator of the safety and stability for banks and depository institutions. Capital adequacy is considered one of the most important terms in the field of evaluating the performance of banks whether conventional or Islamic. What is meant by capital adequacy? In the narrowest interpretation of the concept, it is capital which is considered enough to pay the bank's obligations, protect the depositors' rights, and protect the existing relationship between the bank and its customers. In a broader sense, capital adequacy means capital that is sufficient and/or able to face the risk and that attracts deposits and achieves bank's profitability and eventually achieves growth. Through this definition, we conclude that capital adequacy is that capital which provides protection against any risks that threaten the bank and have the ability to create added value to the bank.

The Central Bank of Iraq has identified in Article 17 of facilitating the implementation of the Iraqi Banking Law No. 4, 2011 the capital adequacy ratio of not less than 12% of the minimum paid-up capital under paragraph 3 of Article 16 in the Banking Act No. 94 of 2004. The capital adequacy ratio = [ total capital / weighted restrictions inside and outside the budget + market risk x] 100. The purpose of the bank capital adequacy standards is to ensure that the bank maintains a minimum level of self-managed fund to face expected risks in order that it can absorb any losses that may accompany financial activities while granting the bank owners and management a motive to manage in a way that copes with local and international requirements.

### Data Analysis

The audited financial statements for ten commercial conventional and Islamic banks for a period of 5 years from 2010 to 2014 have been analyzed, as follows:

- 1- Trade Bank of Iraq (TBI):

**Table 1:** correlation matrix for the rate of return on assets, financial leverage, the tax rate, and capital adequacy:

		Return on assets rate	Financial leverage	Tax rate	Capital adequacy

Return on assets rate	Person correlation	1	0.490	0.059	0.862
Both sides significance			0.402	0.932	0.060
N			5	5	5
Financial leverage	Person correlation		1	0.667	-0.530
Both sides significance				0.569	0.405
N				5	5
Tax rate	Person correlation			1	0.862
Both sides significance					0.060
N					5
Capital adequacy	Person correlation				1
Both sides significance					
N					

From the table above, the relationship between the rate of return on assets (ROA) and the financial leverage of the Iraqi Trade Bank reached 0.490, which is a positive relationship. The relationship between the rate of return on assets and the tax rate reached 0.059 which is both positive and weak. The relationship between the rate of return on assets and capital adequacy, reached 0.862 and this means that the change in the capital adequacy will affect the rate of return on assets by a percentage of 86% of the total change.

**Table 2:** regression coefficient, standard error, the standard error and the value of t in parentheses, and potential values F, and that the tabular value of F in significant level of  $\alpha = 0.025\%$  equal to 17.44 and for all banks.

Credited variable	constant	Financial leverage	Tax rate	Capital adequacy	R-square	F- statistics
	-0.283	0.117	0.198	0.941	0.765	1.115 calculated
	(0.063)	(0.065)	(0.123)	(0.104)		
Return on assets rate	[0.325]	[-3.453]	[2.758]	[1.639]		
	0.283	0.001	3.899	1.421		17.44 tabular

The regression analysis above shows that the interpretation coefficient reached 0.765 which means that the impact of approved changes is at higher level than the independent variables.

Accordingly, the scope of other variables will be about 23.5% which means that the financial leverage and capital adequacy ratio will move in the same direction as the return rate on capital. As the tabular value F is greater than the counted value of F, thus the alternative hypothesis H1 is accepted and the original hypothesis H0 is rejected.

2-Middle East Bank for Investment:

**Table 3:** correlation matrix for the rate of return on assets, financial leverage, the tax rates and capital adequacy:

		Return on assets rate	Financial leverage	Tax rate	Capital adequacy
Return on assets rate	Person correlation	1	0.490	0.059	0.862
Both sides significance			0.402	0.932	0.060
N			5	5	5
Financial leverage	Person correlation		1	0.667	-0.530
Both sides significance				0.569	0.405
N				5	5
Tax rate	Person correlation			1	0.862
Both sides significance					0.060
N					5
Capital adequacy	Person correlation				1
Both sides significance					
N					

The table above shows the relationship between the rate of return on assets (ROA) and financial leverage of the Middle East Bank which reached positive 0.243, while the relationship between the rate of return on assets and the tax rate reached negative -0.676. This result is unnatural because the tax is due on achieved profits. However, it is possible to recover the taxes if the results show that these profits are not taxed, as the case is in the capital profits. On the side of the relationship between the rate of return on assets and capital adequacy, it reached negative -0.545. This also means that this negative change in capital adequacy will poorly affect the return on assets rate between these two variables.

**Table 4:** decline coefficient, the standard error, the value of (t) in parentheses, and the potential value of (F):

Credited variable	constant	Financial leverage	Tax rate	Capital adequacy	R-square	F- statistics
-------------------	----------	--------------------	----------	------------------	----------	---------------

	0.323 (0.047)	0.042 (-0.138)	0.042 (-0.138)	0.003- (-0.141)	0.933	4.65 calculated
Return on assets rate	[-0.245]	[1.413]	[1.413]	[0.132]		
	0.571	0.115	0.115	1.862		17.44 tabular

The regression (decline) analysis above shows that the interpretation coefficient reached 0.933, which means that the effect of the credited variables level was higher level of the independent variables. In other words, the scope of other variables will be in the limit of 0.067% only, which means, in turn, that the financial leverage and the proportion and the rate of the income tax will move in the same direction of the rate of return on capital except the proportion of capital adequacy which moves in the opposite direction. Since the tabular value of F is greater than the calculated value of F, then the alternative hypothesis H1 is accepted and the original hypothesis H0 is rejected.

### 3-The Iraqi Islamic Bank:

**Table 5:** The correlation matrix for the rate of return on assets, financial leverage, the tax rate, and the capital adequacy:

		Return on assets rate	Financial leverage	Tax rate	Capital adequacy
Return on assets rate	Person correlation	1	0.382	-0.894	-0.796
Both sides significance			0.526	0.041	0.107
N			5	5	5
Financial leverage	Person correlation		1	0.007-	-0.700
Both sides significance				0.991	0.188
N				5	5
Tax rate	Person correlation			1	-0.615
Both sides significance					0.270
N					5
Capital adequacy	Person correlation				1
Both sides significance					
N					

The above table shows the relationship between the rate of return on assets (ROA) and financial leverage of the Islamic Bank of Iraq which reached a positive relationship of 0.382,

while the relationship between the rate of return on assets and the tax rate reached a negative relationship of -0.894. On the part of the relationship between the rate of return on assets and the capital adequacy, it reached a negative relation of -0.796. This also means that the change in the capital adequacy will poorly affect the return on assets rate between these two variables.

**Table 6:** regression coefficient, the standard error, the value of (t) in parentheses, and the potential value of F.

Credited variable	constant	Financial leverage	Tax rate	Capital adequacy	R-square	F- statistics
	0.412-	0.034	1.428	0.027	0.956	7.212 calculated
	(0.113)	0.112))	0.114-)	(0.093)		
Return on assets rate	[0.305]	[0.113]	[-0.715]	[0.271]		
	0.928	0.000	1.876	0.832		17.44 tabular

The above regression analysis shows that the interpretation coefficient reached 0.956 which means that the scope of the impact of other credited variables will not exceed 0.044% and that is higher than the independent variables. Since the tabular value of F is greater than the calculated value, then the alternative hypothesis H1 is accepted and the original hypothesis H0 is rejected.

#### 4-The Bank of Baghdad

**Table 7:** correlation matrix for the rate of return on assets, financial leverage, the tax rate, and the capital adequacy:

		Return on assets rate	Financial leverage	Tax rate	Capital adequacy
Return on assets rate	Person correlation	1	0.557-	0.126	-0.929
Both sides significance			0.330	0.840	0.022
N			5	5	5
Financial leverage	Person correlation		1	-0.816	-0.369
Both sides significance				0.092	0.541
N				5	5
Tax rate	Person correlation			1	-0.134
Both sides significance					0.829

N					5
Capital adequacy	Person correlation				1
Both sides significance					
N					

The above table shows the relationship between the rates of return on assets (ROA) and financial leverage of the Bank of Baghdad. It has reached -0.557 which is a negative relationship. That is to say, the change in the financial leverage will affect negatively on the return on assets. While the relationship between the rate of return on assets and the tax rate reached 0.126 which is a positive relationship. On the side of the relationship between the rate of return on assets and the capital adequacy, it stood at -0.929 which is also a negative relationship. This means that the change in the capital adequacy will poorly affect the return on assets rate between these two variables and oppositely.

**Table 8:** regression coefficient, the standard error, the value of the value of (t) in parentheses, and the potential value of F:

Credited variable	constant	Financial leverage	Tax rate	Capital adequacy	R-square	F- statistics
	0.043	5.094	1.113	0.001-	0.928	4.290 calculated
	0.0205))	0.113))	(0.115)	0.158))		
Return on assets rate	[-0.201]	[2.114]	[01.117]	[-0.126]		
	0.906	0.666	0.498	0.586		17.44 tabular

The regression (decline) analysis above shows that the interpretation coefficient reached 0.928 which means that the effect of the credited variables level was higher than the independent variables. Also, the ratio explanation of other variables reaches 0.064%. Since the F tabular value is greater than the F calculated value, then the alternative hypothesis H1 is accepted, and the original hypothesis H0 is refused.

5-Bank of Dar Al- Salaam:

**Table 9:** correlation matrix for the rate of return on assets, financial leverage, the tax rate, and the capital adequacy:

		Return on assets rate	Financial leverage	Tax rate	Capital adequacy
Return on assets rate	Person correlation	1	0.727-	0.987	0.164
Both sides			0.164	0.002	0.792

significance					
N			5	5	5
Financial leverage	Person correlation		1	-0.739-	-0.674
Both sides significance				0.158	0.212
N				5	5
Tax rate	Person correlation			1	0.239
Both sides significance					0.698
N					5
Capital adequacy	Person correlation				1
Both sides significance					
N					

The above table shows the relationship between the rate of return on assets (ROA) and the financial leverage of the Bank of Dar Al-Salaam. It has reached a negative relationship of -0.727. That is to say, the change in the financial leverage will negatively affect the return on assets. While the relationship between the rate of return on assets and the tax rate has reached 0.987. On the side of the relationship between the rate of return on assets and the capital adequacy has stopped at 0.164. It is also a positive relationship, which means that the change in capital adequacy will affect the return on assets rate naturally between the two variables.

**Table 10:** Regression coefficient, the standard error, the value of (t) in parentheses, and the potential value of F:

Credited variable	constant	Financial leverage	Tax rate	Capital adequacy	R-square	F- statistics
	0.017	1.310-	7.222	6.092-	0.987	25.450* calculated
	0.051))	0.045))	(0.041)	(0.056)		
Return on assets rate	[0.149]	0.542]	[-3.127]	[1.739]		
	0.935	0.739	0.575	0.776		17.44 tabular

Value of F is significant by 0.05

The regression (decline) analysis above shows that the interpretation coefficient reached 0.928 and it is higher than any independent variables. In other words, the impact of the level of the other credited variables will not exceed 0.013. Also, the level of calculated F is significant which reached 25.450 and it is higher than the tabular F of 6.39. Since the tabular value of F is less than the calculated value of F, the original hypothesis H0 is accepted, and the alternative hypothesis H1 is rejected.

6- Iraqi Bank for Investment:

**Table 11:** The correlation matrix for the rate of return on assets, the financial leverage, the tax rate, and the capital adequacy:

		Return on assets rate	Financial leverage	Tax rate	Capital adequacy
Return on assets rate	Person correlation	1	0.631-	0.756	0.111
Both sides significance			0.254	0.139	0.858
N			5	5	5
Financial leverage	Person correlation		1	-0.827-	-0.763
Both sides significance				0.084	0.133
N				5	5
Tax rate	Person correlation			1	0.671
Both sides significance					0.215
N					5
Capital adequacy	Person correlation				1
Both sides significance					
N					

The above table shows the relationship between the rate of return on assets (ROA) and the financial leverage of the Iraqi Bank for investment which reached negative -0.631. This means that the change in the financial leverage will reversely affect the return on assets. On the other hand, the relationship between the rate of return on assets and the tax rate reached 0.756. With regard to the relationship between the rate of return on assets, the capital adequacy stood at 0.111 which is also positive. This means that the change in the capital adequacy will affect the rate of return on assets in a normal way between these two variables.

**Table 12:** regression coefficient, the standard error, the value of (t) in parentheses, and the potential value of F:

Credited variable	constant	Financial leverage	Tax rate	Capital adequacy	R-square	F- statistics
	0.165	0.011	9.288	0.001-	0.959	7.707 calculated

	0.226))	(0.071)	(1.216)	0.054))		
Return on assets rate	[0.112]	[-.445]	[2.758]	[0.615]		
	0.569	0.029	9.564	0.347		17.44 tabular

The regression analysis above shows that the interpretation coefficient reached 0.928 and higher than the independent variables. That means the impact of the level of the other credited variables will be in rate of 0.041. Since the tabular value of F is greater than the calculated value of F. Thus, the alternative hypothesis H1 is accepted while the original hypothesis H0 is rejected.

#### 7- Babylon Bank

Table 13: The correlation matrix for the rate of return on assets, the financial leverage, the tax rate, and the capital adequacy:

		Return on assets rate	Financial leverage	Tax rate	Capital adequacy
Return on assets rate	Person correlation	1	0.490	0.340	0.548
Both sides significance			0.402	0.576	0.339
N			5	5	5
Financial leverage	Person correlation		1	0.033	0.596
Both sides significance				0.958	0.289
N				5	5
Tax rate	Person correlation			1	0.191-
Both sides significance					0.756
N					5
Capital adequacy	Person correlation				1
Both sides significance					
N					

The table above shows the relationship between the rate of return on assets (ROA) and the financial leverage of the Bank of Babylon reached 0.907 which is a positive relationship. That means the increase in the financial leverage will affect the return on assets to make it increase. The relationship between the rate of return on assets and the tax rate reached 0.340. With regard to the relationship between the rate of return on assets and capital adequacy, it stopped at 0.548 which is also a positive and powerful relationship. This means that the change in the capital adequacy will significantly affect the return on assets rates between these two variables.

**Table 14:** regression (decline) coefficient, the standard error, the value of t in parentheses, and the potential value of F:

Credited variable	constant	Financial leverage	Tax rate	Capital adequacy	R-square	F- statistics
	0.160	0.001	9.853	0.001	0.708	4.353 calculated
	0.095))	0.103))	(0.264)	0.144))		
Return on assets rate	[0.705]	[-0.113]	[-3.117]	[-0.116]		
	0.814	0.565	0.379	0.541		17.44 tabular

The above regression analysis shows that the interpretation coefficient reached 0.708. That means the effect of credited variables level is higher than the independent variables. Since the tabular value of F is greater than the calculated value of F, then the alternative hypothesis H1 is accepted and the original hypothesis H0 is rejected.

8-Elaf Islamic Bank

**Table 15:** the correlation matrix for the rate of return on assets, financial leverage, the tax rate, and the capital adequacy:

		Return on assets rate	Financial leverage	Tax rate	Capital adequacy
Return on assets rate	Person correlation	1	0.566	0.910	0.875-
Both sides significance			0.320	0.032	0.052
N			5	5	5
Financial leverage	Person correlation		1	0.214	0.847-
Both sides significance				0.729	0.070
N				5	5
Tax rate	Person correlation			1	0.614-
Both sides significance					0.271
N					5
Capital adequacy	Person correlation				1
Both sides significance					
N					

The above table shows the relationship between the rate of return on assets (ROA) and the financial leverage which has reached 0.566 in a positive relationship. That is to say, the increase in the financial leverage will lead to an increase in the return on assets. While the relationship between the rate of return on assets and the tax rate reached 0.910. With regard

to the relationship between the rate of return on assets and the capital adequacy, it stood at 0.875- which is a strong and reversed relation which means that the change in the capital adequacy will reversely affect the rate of return on assets.

**Table 16:** regression coefficient, the standard error, the value of t in parentheses, and the potential value of F:

Credited variable	constant	Financial leverage	Tax rate	Capital adequacy	R-square	F- statistics
	0.069	7.944	2.555	0.001-	0.989	28.772* calculated
	0.018))	(0.073)	(0.067)	0.0388))		
Return on assets rate	[0.225]	[8.615]	[1.927]	[0.461]		
	0.432	0.581	2.768	0.135		17.44 tabular

The above regression analysis shows that the interpretation coefficient reached 0.708 which means that the effect of credited variables level is higher than the independent variables. Since the tabular value of F is lesser than the calculated value of F, then the original hypothesis H0 is accepted and the original hypothesis H1 is rejected.

9- Al-Khalij Commercial Bank:

**Table 17:** The correlation matrix for the rate of return on assets, the financial leverage, the tax rate, and capital adequacy:

		Return on assets rate	Financial leverage	Tax rate	Capital adequacy
Return on assets rate	Person correlation	1	0.621	0.451-	0.451-
Both sides significance			0.263	0.446	0.446
N			5	5	5
Financial leverage	Person correlation		1	0.789-	0.789-
Both sides significance				0.112	0.112
N				5	5
Tax rate	Person correlation			0.260	0.260
Both sides significance					0.672
N					5
Capital adequacy	Person correlation				1
Both sides significance					
N					

The above table shows the relationship between the rate of return on assets (ROA) and the financial leverage which has reached a positive relationship of 0.621. That is to say, the

increase in the financial leverage will lead to an increase in the return on assets. The relationship between the rate of return on assets and the tax rate has reached 0.569. With regard to the relationship between the rate of return on assets and the capital adequacy, it stood at 0.451- which means that the change in the capital adequacy will negative affect the rate of return on assets.

**Table 18:** regression coefficient, the standard error and the value of t in parentheses, and the potential value of F:

Credited variable	constant	Financial leverage	Tax rate	Capital adequacy	R-square	F- statistics
	0.238	0.101	3.547	0.002-	0.933	53.515* calculated
	(0.064)	0.089))	0.038))	(0.046)		
Return on assets rate	[0.772]	[0.211]	[2.758]	[1.016]		
	0.646	0.216	4.671	0.562		17.44 tabular

The above regression analysis shows that the interpretation coefficient reached 0.993 which means that the effect of the credited variables levels is higher than the level of the independent variables. Since the tabular value of F is smaller than the F calculated value, then the alternative hypothesis H1 is accepted and the original hypothesis H0 is rejected.

10-The Bank of Kurdistan:

**Table 19:** the correlation matrix for the rate of return on assets, financial leverage, the tax rate, and the capital adequacy:

		Return on assets rate	Financial leverage	Tax rate	Capital adequacy
Return on assets rate	Person correlation	1	0.661-	0.709	0.367
Both sides significance			0.225	0.180	0.543
N			5	5	5
Financial leverage	Person correlation		1	0.720-	0.801-
Both sides significance				0.170	0.103
N				5	5
Tax rate	Person correlation			1	0.702
Both sides					0.187

significance					
N					5
Capital adequacy	Person correlation				1
Both sides significance					
N					

The above table shows the relationship between the rate of return on assets (ROA) and the financial leverage which reached 0.661- (a strong negative relationship). That means the increase in the financial leverage will decrease the return on assets. With regard to the relationship between the rate of return on assets and the tax rate, it has reached 0.709 which indicates that it is a strong and positive relationship. The rate of return on assets and capital adequacy stood at positive 0.367 which means that the increase in the independent variable will lead to an increase in the return on assets.

**Table 20:** regression coefficient, the standard error, the value of (t) in parentheses, and the potential value F:

Credited variable	constant	Financial leverage	Tax rate	Capital adequacy	R-square	F- statistics
	0.094	0.000	7.891	0.000	0.797	0.781 calculated
	0.019)-)	0.023))	1.216))	(1.242)		
Return on assets rate	[0.325]	[-3.453]	[2.758]	[1.639]		
	0.367	0.000	6.481	0.000		17.44 tabular

The above regression analysis shows that the interpretation coefficient reached 0.993 which means that the effect of the credited variables level is higher than the variables. And since the tabular value of F is greater than the F calculated value, then the alternative hypothesis H1 is accepted, and the original hypothesis H0 is rejected.

## Conclusions

The objective of this study was the analysis and clarification of the mutual relationship among the determinants that play a significant role on return on assets in the conventional and Islamic commercial banks working in the private sector of Iraq. This analysis has displayed the relationship between financial leverage, the tax rate, and the capital adequacy with the return on assets rate of ten commercial banks for the period from 2010 until the end of 2014. In light of the results of the analysis, it can be concluded that the impact of the

selected determinants differs on the return of assets of each bank. The impact on some banks was positive and significant, while it was negative and non-significant on the others. Accordingly, the following results can be drawn:

1. The financial leverage of banks ranged from -1.310 (Bank of Dar Al-Salaam rate), and maximally to 5.094 (the Bank of Baghdad).
2. The minimum income tax rate ranged from 0.198 (in the Commercial Bank), to maximally 7.222 (in Dar Al-Salaam bank).
3. The minimum capital efficiency rate was 6.092- for the Bank of Dar Al-Salaam compared to 0.941 of the commercial bank.
4. The interpretation coefficient reached high limits ranging from minimally 0.708 of the Commercial Bank and 0.993 of Al Khalij Commercial Bank. Thus, the variables explain the phenomenon at high levels.
5. The statistical results have shown that the value of F is significant for three commercial banks; Elaf Islamic Bank, Iraqi Bank for Investment and Al-Khalij Commercial Bank. In this case, the original hypotheses H1 the first, the second, and the third are accepted concerning the existence of a significant effect of the financial leverage, the rate of income tax, and the capital adequacy on the rate of return on assets. The alternative hypothesis H0 is rejected. Regarding the rest of the banks, the alternative hypotheses H0 are accepted and the original hypotheses H1 are rejected. In other words, there is no significant effect from each of the three above-mentioned variables on the rate of return on investment.

## REFERENCES

Arabic:

1. Income Tax Act and amended issued in 1982.
2. Banking Act No. 94 of 2004 issued on 01.09.2004.
3. Facilitate the implementation of the Banking Act, issued by the Central Bank of Iraq No. 4 on 02/03/2011
4. Saud al-Tayeb Musa, and Isa Mohammed Shahatit 2011: (standard analysis of the application of capital adequacy on the profitability of commercial banks: the case of Jordan - Journal of Administrative Sciences Studies, Vol. 38 No. 2 and 2011, pp. 358-366.
5. Siam, Ahmed Zakaria.2009. "The role of governance in the banking Tazyszkvaeh Jordanian commercial banks, research presented to the Second Scientific Conference of the College of Business Administration for the period 14 to 15 April 2009
6. Mohammed, Suad Abdafattah, and Mubarak is subject example, BabanRaadFadel 2013 (measurement of the efficiency of capital in private banks - Empirical Study in Economics Investment and Finance Bank. Journal of Baghdad College of Economic Sciences University No. 34/2013 pp. 23-35

7. Islam, F., Muhammad Adnan Hye, Q., & Shahbaz, M. (2012). Import-economic growth nexus: ARDL approach to cointegration. *Journal of Chinese Economic and Foreign Trade Studies*, 5(3), 194-214.
  8. Mahrinasari, M., Haseeb, M., Ammar, J., Meiryani, M. (2019). Does Trade Liberalization a Hazard to Sustainable Environment? Fresh Insight from ASEAN Countries. *Polish Journal of Management Studies*, 19 (1), 200-210.
  9. Muheisen, Tariq (2006) "" The impact of efficiency on a competitive device in 2005 ", a message - Jordanian banking: a field study in 1979 Unpublished Master, Mutah University
  10. Younis mortar 2015: achieving capital adequacy in conventional and Islamic banks among the lifting of capital and risk control, record comparative study between the banks listed in the Saudi financial Alshq during the period 2008-2012 Unpublished master's thesis University of Ouargla Algeria. [Http://dspace.univ-ouargla](http://dspace.univ-ouargla).
- a. Foreign:
11. Acharya V. V., (2003), Is the International Convergence of Capital Adequacy Regulation Desirable? *The Journal of Finance*, Vol. 58, No. 6, pp. 2745-2781
  12. Ahmad R., Ariff M., Skully M. J., (2009), The Determinants of Bank Capital Ratios in a Developing Economy, Springer *Science+Business Media, LLC. 2009*
  13. Baggs J. and Brander J. A., (2006), Trade Liberalization, Profitability, and Financial Leverage, *Journal of International Business Studies*, Vol. 37, No. 2 , pp. 196 -211
  14. Baucus D. A., Golec J. H. & Cooper J. R., (1993), Estimating Risk-Return Relationships: An Analysis of Measures, *Strategic Management Journal*, Vol. 14, No. 5, pp. 387-396
  15. Ben Naceur, S., and M. Omran. 2010. The effects of bank regulations, competition, and financial reforms on banks' performance. Working Paper, International Monetary Fund
  16. Chantapong, S. 2005. Comparative study of domestic and foreign bank performance in Thailand: The regression analysis. *Economic Change and Restructuring* 38: 63–83
  17. Dang V. A., (2010), Leverage, Debt Maturity and Firm Investment: An Empirical Analysis, *Journal of Business Finance & Accounting*
  18. Davies R. B., Egger H. & Egger P. (n.d.), *Profit Taxation and the Mode of Foreign Market Entry*, *Canadian Journal of Economics*, Vol. 43, No. 2
  19. Fu, M., and S. Heffernan. 2010. Determinants of financial performance in Chinese banking. *Applied Financial Economics* 20: 1585–600.
  20. Guru, B.K., J. Staunton, and B. Balashanmugam. 2002. determinants of commercial bank profitability in Malaysia. Working Paper, *Multimedia University*



24. Mittoo U. R & Zhang Z., (2010), Bond Market Access, Credit Quality, and Capital Structure: Canadian Evidence, *The Financial Review* 45, pp. 579–602
25. Nachane D.M., (1999), Capital Adequacy Ratios An Agnostic Viewpoint, *Economic and Political Weekly*, Vol. 34, No. 3/4, Money, Banking and Finance, pp. 155-160
26. Oldfield G. S., (1976), The Free Market Regulation of Bank Capital, *Financial Management*, Vol. 5, No. 4 , pp. 56-58
27. Pasiouras, F., and K. Kosmidou. 2007. Factors influencing the profitability of domestic and foreign commercial banks in the European Union. *Research in International Business and Finance* 21, no. 2: 223–37.
28. Singh S. P., (1974) , Profitability of Nationalized Banks, *Economic and Political Weekly*, Vol. 9, No. 35 , pp. M67+M69-M72
29. Spathis C., Kosmidoua K., & Doumpos M., (2002), Assessing Profitability Factors in the Greek Banking System: A Multicriteria Methodology, *International Federation of Operational Research Societies*, pp. 517–530
30. Tarawneh M., (2006), A Comparison of Financial Performance in the Banking Sector: Some Evidence from Omani Commercial Banks, *Sultanate of Oman International Research Journal of Finance and Economics*, ISSN 1450-2887 Issue 3.
31. Isik, U., Sunay, H., & Cengiz, R. (2018). The Relationship between School Administrators' In-House Communication and Conflict Management Strategies According to Physical Education Teachers' Perceptions. *Asian Journal of Education and Training*, 4(4), 266-271.